

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Michael F. Roberts et al. Art Unit : 1744
Serial No. : 10/036,022 Examiner : M. Spisich
Filed : December 26, 2001 Conf. No. : 2417
Title : GUM-MASSAGING ORAL BRUSH

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Commissioner for Patents
P.O. Box 1450
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BRIEF ON APPEAL

Appellants are appealing the final rejection of claims 52-54 and 57 in the final office action dated September 19, 2008. Appellants request that the rejections be reversed.

(1) Real Party in Interest

The real party of interest is Gillette Canada Company. Gillette Canada Company is owned by The Procter & Gamble Company.

(2) Related Appeals and Interferences

Patent Application Serial No. 10/991,911, Patent Application Serial No. 11/248,087, and Patent Application Serial No. 10/692,916 are before the Board of Patent Appeals and Interferences.

(3) Status of Claims

Claims 52-54 and 57 are pending; claim 52 being the only claim in independent form. Claims 1-51, 56 and 58-60 were cancelled during prosecution. All claims stand rejected as being obvious over Lion Corporation, Japanese Unexamined Utility Model Application No. 1-72128 ("J-128").

(4) Status of Amendments

All amendments have been entered.

(5) Summary of Claimed Subject Matter

Claim 52 is directed to an oral brush (**FIG. 1,10**) that includes an elongated handle (**FIG. 1,12**), a head portion (**FIG. 1,14**), sized for insertion into the human mouth (**page 2, line 32 - page 3, line 3**), extending from an end of the handle (**FIG. 1,12**) and a brush portion (**FIG. 1,16**). The brush portion (**FIG. 1,16**) includes:

(a) at least one molded elastomeric element (**page 10, lines 14-16 of paragraph**) extending a sufficient distance from the head portion to contact one or more teeth (**page 3, line 3**), and (b) a plurality of non-elastomeric bristles (**page 5, pages 18 and 19, and page 8, lines 9-27**) extending from said head portion. The molded elastomeric element (**FIG. 1,20 or, alternatively, FIG. 6,20**) includes a thermoplastic elastomer having a Shore A hardness of less than 55 (**page 8, lines 1-3**), and the thermoplastic elastomer includes a styrenic block copolymer (**page 6, last paragraph**). The molded elastomeric element extends upwardly from the head portion in substantially the same direction as at least some of the non-elastomeric bristles (**e.g., FIG. 1**).

(6) Grounds of Rejection to be Reviewed on Appeal

Appellants request reversal of the rejection of claims 52-54 and 57 under 35 U.S.C. §103(a) as being obvious over utility model JP 1-72128 ('128).

(7) Argument

The Rejection of Claims 52-54 and 57 as Obvious over J-128 Should be Reversed

Appellants respectfully request withdrawal of this rejection for the following reasons.

Claim 52 is directed to an oral brush. The oral brush includes, in pertinent part, a brush portion that includes at least one molded elastomeric element. Appellants have found that molding elastomeric bristles provides bristles that are gentle and that have surprisingly good wear resistance. Appellants have also found that it is important that the Shore A hardness of the molded elastomeric elements be less than 55. Neither of these features are taught or reasonably suggested by the art of record.

A. No Teaching or Suggestion of Molded Elastomeric Elements

J-128 does not teach or suggest a molded elastomeric element. A person of ordinary skill in the art would understand that "molded" is a structural distinction since it is known to persons of ordinary skill in the art that molding yields a different *microstructure* than extruding, even though the extruded and molded parts may *look* similar from a *macroscopic* point of view.

In the Final Office Action mailed September 19, 2008, the Examiner states that "a prior art reference need not have a molded element to meet a claim that recites that the element is 'molded.'" (Final Office Action, page 4.) The Examiner also states that "the fact that '128 discloses a different method of forming the elements does not overcome the fact that the elastomeric elements could be formed by other means as well, *given the fact that the claims are to the brush and not to a method of forming it.*" (Final Office Action, paragraph bridging pages 4 and 5.) These statements suggest that the Examiner may be viewing "molded" as a process limitation. However, this is not the case. As explained above, a molded elastomeric element has a microstructure that is different from that of an extruded element, and thus the term "molded" recites a structural feature. Thus, the cited prior art reference does in fact need to disclose a molded element to meet Appellants' claim which recites that the element is "molded."

J-128 does not provide this disclosure. Instead, J-128 discloses an oral cleaning implement employing filaments composed of a melt spinnable (i.e., extrudable) thermoplastic elastomer (see page 4, line 4 of the translation¹). All of the elastomeric bristles disclosed in the '128 utility model are melt spun, or melt spun and drawn (i.e., stretched).

Appellants note that it is known to persons of ordinary skill in the art that extruded bristles generally have better mechanical properties when compared to molded bristles made of the same material due to differences in microstructure thought to arise from orientation imparted during extrusion. For example, ordinary nylon 612 toothbrush bristles (monofilaments) are extruded and drawn to improve their bend recovery properties and to improve their wear resistance as compared to nylon 612 bristles which are molded.

There is no motivating disclosure in J-128 that would have led one of ordinary skill in the art to mold an elastomeric element rather than melt spinning or melt spinning and drawing the

¹ Translation submitted with Appellants' IDS filed 2/13/2004.

elastomeric element. Instead, the disclosure of J-128, and the general knowledge available to those of ordinary skill in the art, would have led the artisan to believe that elastomeric elements should be formed by melt spinning or similar extrusion techniques. Persons of ordinary skill in the art would have understood that extrusion and drawing techniques such as those described in J-128 impart molecular orientation to the polymeric material that molding does not. A person of ordinary skill in the art would not have expected a molded elastomeric element to have the wear resistance or other physical characteristics needed for use in an oral brush.

It was the inventors who discovered that the reverse is true – that in the case of elastomeric elements molding provides better wear resistance and processability than extrusion.

During development of the toothbrushes described in the above-referenced application, Mr. Masterman and his co-inventors discovered that extrusion did not work well for forming elastomeric elements. Elastomeric elements formed by extrusion generally exhibited unsatisfactory wear resistance. Also, the soft materials used to form the elastomeric elements proved very difficult to successfully extrude and draw. Many elastomers have elongations at break of between 100 and 500 percent, and thus act like "rubber bands" when drawn.

(Declaration of Craig Masterman, submitted with Appellants' previous response, paragraph 2.)

The inventors themselves were surprised to find that molded elastomeric elements exhibited better wear resistance than the elastomeric elements that were formed by extrusion. This result was surprising because it ran counter to the general knowledge in the art that the wear resistance of conventional Nylon bristles would be unsatisfactory if the bristles were molded, and that extrusion and drawing should be used instead in order to obtain satisfactory properties.

(Declaration of Craig Masterman, paragraph 3.)

In the Final Office Action mailed September 19, 2008, the Examiner contends that Mr. Masterman's statements are contradicted by Appellants' statement, in the specification, that the thermoplastic elastomer could be processed by either extrusion or injection molding. Appellants respectfully disagree. Mr. Masterman's statements, quoted above, do not indicate that elastomeric elements *cannot* be manufactured by extrusion, but instead that molded elastomeric elements exhibit superior properties. Appellants having limited the present claims to elements formed by molding is in no way contrary to the teachings of Appellants' specification.

In the Final Office Action mailed September 19, 2008, the Examiner also states that "there is no indication or suggestion in the specification that the manner of forming the elastomer elements constituted any part of the invention and that the method of forming produced anything but results that would have been expected by one of ordinary skill. " (Final Office Action, page 5.) However, it is well established that there is no requirement that evidence or arguments must be found in the specification to be considered in an obviousness determination. For example, in In re Chu, the Federal Circuit stated that

[w]e have found no cases supporting the position that a patent applicant's evidence and/or arguments traversing a §103 rejection must be contained within the specification. There is no logical support for such a proposition as well, given that obviousness is determined by the totality of the record including, in some instances most significantly, the evidence and arguments proffered during the give-and-take of ex parte patent prosecution. (In re Chu, 66 F.3d 292, 299, CAFC, 1995.)

In the present case, Appellants have provided evidence of unexpected results, in the form of Mr. Masterman's declaration. Appellants respectfully submit that it is improper to disregard this evidence, which is relevant to the determination of obviousness.

B. No Teaching or Suggestion of Shore A Hardness of Less than 55

Nor is there any recognition in J-128 that the elastomeric material should have a Shore A hardness of less than 55. As acknowledged by the Examiner, J-128 is silent in this regard. The Examiner has asserted, however, that because J-128 discloses KRATON[®] polymers as an example, "it is not unreasonable to assume that an elastomer in this class of materials having the recited hardness exists under the trademark KRATON." The Examiner also has asserted that it would have been obvious to the person of ordinary skill in the art to select a KRATON[®] polymer that would have an appropriate hardness in the recited range. Appellant respectfully submits that this statement is based only on conjecture. There is simply no suggestion in the art, or in the general knowledge available to one of merely ordinary skill in the art, which would have led the artisan to select, from the over 150 grades of KRATON polymer available (see www.kraton.com) an elastomer having a hardness within the recited range.

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In the Final Office Action mailed September 19, 2008, the Examiner states that "there is nothing in the specification which would suggest that the selection of the hardness is a critical part of the invention." (Final Office Action, page 4.) However, as discussed above, it is well established that there is no requirement that evidence or arguments must be found in the specification to be considered in an obviousness determination. Accordingly, it is submitted that the Examiner's statement in this regard is not relevant to the determination of obviousness.

For at least the reasons discussed above, claim 52 and all dependent claims are non-obvious over J-128 and the rejection should be reversed.

CONCLUSION

Appellants respectfully request that the 35 U.S.C. 103(a) rejection of claims 52-54 and 57 based on J-128 be reversed and all claims allowed.

A listing of the claims is attached hereto.

Please apply the \$540 brief fee and any other charges or credits to Deposit Account No. 06-1050, referencing Attorney Docket No. 00216-0368004.

Respectfully submitted,

Date: December 8, 2008

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Appendix of Claims

52. An oral brush, comprising:

an elongated handle;

a head portion, sized for insertion into a human mouth, extending from an end of said handle; and

a brush portion comprising

(a) at least one molded elastomeric element extending a sufficient distance from said head portion to contact one or more teeth, comprising a thermoplastic elastomer having a Shore A hardness of less than 55, said thermoplastic elastomer comprising a styrenic block copolymer, and

(b) a plurality of non-elastomeric bristles extending from said head portion,

wherein said molded elastomeric element extends upwardly from said head portion in substantially the same direction as at least some of the non-elastomeric bristles.

53. The oral brush of claim 52 wherein said elastomeric element is disposed along a longitudinal outer edge of the head portion.

54. The oral brush of claim 53 wherein the oral brush includes at least two elastomeric elements, and one is disposed along each longitudinal outer edge of the head portion.

57. The oral brush of claim 52 wherein said elastomeric element extends upwardly at substantially the same angle as at least some of said non-elastomeric bristles.

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Evidence Appendix

None.

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Related Proceedings Appendix

None.